



The Potential Costs and Benefits of Providing Free Public Transportation Passes to Students in Los Angeles County

ADDENDUM
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INTRODUCTION

The Los Angeles County Department of Public Health (DPH) released a report on the costs and benefits of providing free transit passes to students in October 2013 (DPH, 2013). Since its release, additional data on transit ridership, costs, and public opinions have become available. This addendum presents updated calculations presented in the original report as well as additional information not previously available.

UPDATED ESTIMATES

Decreases in Transit Fare Revenues. Estimates of potential revenue losses were recalculated using self-reported public transit use by students and non-students (age 5 years and older) living in Los Angeles County, using the 2010-2012 California Household Travel Survey (CHTS, 2013).¹ Due to the lack of information on transit fares paid in this survey, it was not possible to estimate total fare revenues as in the original report, and thus only relative fare revenue losses are reported.²

Results for the assessment estimate that:

- Providing free transit passes for K-12 students could lead to a loss of 7% of total fare revenues for Los Angeles County transit agencies (Table 1).
- Including trade, technical school, and college students in the free transit pass program could result in a loss of 21% of total fare revenue (Table 1).
- Based on Los Angeles County Metropolitan Transportation Authority (MTA) fare revenues of \$340 million in fiscal year 2013, revenue losses could equal \$24 million with a pass for K-12 students and \$71 million with a pass for all students.

¹ The 2010-2012 California Household Travel Survey (CHTS) was a collaborative effort with transportation planning agencies to collect travel information for regional and stateside travel and environmental models and included the 2011 Southern California Association of Governments (SCAG) Household Travel Survey.

² As before, trip diary data were used to identify public transit users and estimate the number of transit trips. Because CHTS did not ask about fares paid for each trip, it was assumed that the ratios of average weekly fares paid across rows in Tables 1 and 2 were the same as those estimated using the 2001 SCAG Household Travel Survey. This allowed for the estimation of fare revenues for each group as a proportion of total fare revenue, but not of the actual amounts. It should be noted that the CHTS also included a question where respondents were asked if they had used public transit within the 7-day period before being surveyed and, if so, how many transit trips they had taken. Although this question may more accurately capture weekly transit usage, we decided to use trip diary data because it was not clear if respondents included modes of transportation that are not considered public transit for the purposes of this study, such as school buses, non-commuter trains, or taxicabs. Transit usage estimates are significantly higher in the CHTS when using this question instead of trip diary data.

TABLE 1. Estimates of Decreases in Transit Fare Revenue for Los Angeles County Transit Agencies if Free Transit Passes Were Provided to Students.*

Enrollment Status	Population Size¹	Use of Public Transit² (%)	Average Number of Weekly Trips	Share of Total Weekly Fares Revenue³ (%)	Cumulative Cost Relative to Total Fare Revenue (%)
Students	2,796,300	11.3	8.0	20.6	
K – 8	1,177,400	4.1	8.7	2.5	3
9 – 12	642,500	15.4	7.7	4.5	7
Other students	976,300	17.3	8.0	13.7	21
Non-students	6,584,200	11.8	7.9	79.4	-
Total	9,380,500	11.7	7.9	100.0	-

¹ Only ages 5 and older with student status information; estimated using weighted data from the 2010-2012 California Household Travel Survey (CHTS).

² All self-reported public transit use in travel diary data.

³ Assuming ratios of weekly paid fares across groups were the same as those estimated from the 2001 SCAG Travel Survey.

*This is an update of Table 3 in the original 2013 Report (page 8).

As in the 2013 report, the estimates were also calculated under a scenario where passes would be limited to students living in low-income households. These results continue to suggest that limiting the provision of transit passes to this population, which have higher rates of transit usage, would significantly decrease the costs of the program.

- Providing a free transit pass for low-income K-12 students could lead to a loss of approximately 4% of total fare revenues (Table 2).
- Expanding the program to low-income trade, technical, and college students could lead to a loss of 7% of total fare revenues (Table 2).
- Using MTA's reported total fare revenues in fiscal year 2013, revenue losses could equal \$14 million with a pass for low-income K-12 students and \$23 million with a pass for all low-income students.

TABLE 2. Estimates of Decreases in Transit Fare Revenue for Los Angeles County Transit Agencies if Free Transit Passes were Provided to Students Living in Low-income Households.^{1*}

Enrollment Status	Population Size^{1,2}	Use of Public Transit³ (%)	Average Number of Weekly Trips	Share of Total Weekly Fares Revenue^{4,5} (%)	Cumulative Cost Relative to Total Fare Revenue (%)
Students	626,400	19.5	9.5	6.8	
K – 8	319,600	8.6	7.9	1.6	2
9 – 12	162,800	30.0	8.1	2.6	4
Other students	144,000	31.9	11.8	2.6	7
Non-students	1,045,800	23.3	8.3	22.5	-
Total	1,672,200	21.9	8.7	29.3	-

¹ Individuals living in households below the 2011 federal poverty guidelines.

² Only ages 5 and older with student status information; estimated using weighted data from the 2010-2012 California Household Travel Survey (CHTS).

³ All self-reported public transit use in travel diary data.

⁴ Assuming ratios of weekly paid fares across groups were the same as those estimated from the 2001 SCAG Travel Survey.

⁵ Total revenues from fare payments by low-income and non-low income users.

*This is an update of Table 4 in the original 2013 Report (page 9).

Increases in Transit Ridership. Estimates of potential changes in ridership were also updated using the 2010-2012 CHTS data, assuming the same values for short- and long-term price elasticities for public transit demand.

- If free transit passes were provided to all students, short-term ridership could increase between 6% and 14%, relative to total (students and non-students) ridership, representing an additional 63,200 to 158,000 users (Table 3).
 - Short-term (<2 years) increases could lead to some overcrowding, as transit agencies may lack the time to adjust capacity to meet new demand.
- Volume of long-term ridership (>10 years) could also increase, by as much as 26%.

TABLE 3. Estimated Change in Ridership if Free Transit Passes Were Provided to Students in Los Angeles County.^{1*}

Baseline Ridership ²		Estimated Increases in Ridership			
		<u>Short-Term</u>		<u>Long-Term</u>	
		Lower Bound	Upper Bound	Lower Bound	Upper Bound
All Students					
K-12	147,200	29,400	73,600	88,300	132,500
K-graduate	316,100	63,200	158,000	189,700	284,500
Low-Income					
K-12	76,300	15,300	38,200	45,800	68,700
K-graduate	122,200	24,400	61,100	73,300	110,000

¹ Estimated using the range of transit price elasticities recommended in Littman, 2004.

² Ridership changes relative to total usage reported in 2010-2012 California Household Travel Survey (CHTS) (last row in Table 1).

*This is an update of Table 5 in the original 2013 Report (page 11).

Increase in School Attendance. Estimates of the number of students using public transportation to get to school were updated using the 2010-2012 CHTS data.

- About 285,000 students (nearly 10% of all students) in Los Angeles County regularly use public transportation to get to school (CHTS, 2013).
 - 4% of K-8 students use public transportation to get to school.
 - 16% of 9-12 grade students use public transit to get to school.

NEW DATA

Student Transit Ridership and Voter Support for Free Student Transit Passes. In September of 2013, DPH, in partnership with Field Research Corporation (an independent California-based opinion research organization), conducted a random-digit-dial, computer-assisted telephone interview survey of registered voters in Los Angeles County. A total of 1,005 telephone interviews (both landline and cell phones) were completed in English and Spanish. The crude response rate was 20%; the cooperation rate (those contacted who completed the survey) was 54%. Responses were weighted to facilitate generalization to the Los Angeles County population of registered voters.³

All adult respondents who identified as students were asked how they usually commute to school. Over 11% indicated they use public transportation to get to school (Table 4).

TABLE 4. Adult (age >18) Who Identified as Students: Travel Mode to School

	Point Estimate (%)	95% Confidence Interval (%)
Drive alone	65.0	55.0, 75.1
Bus or train	11.8	5.2, 18.5
Walk or bike	9.5	3.5, 15.4
Carpool	7.7	2.4, 13.0
No commute	5.9	0.5, 11.4

All adult respondents who reported they had children living in their household were asked how their oldest child usually commutes to school. About 10% reported that their children who are students relied on public transportation to get to school (Table 5); this is more than the number of child students who use school bus services.

TABLE 5. Child Students: Travel Mode to School¹

	Point Estimate (%)	95% Confidence Interval (%)
Car	67.9	61.2, 74.7
Walk, bike, or skateboard	15.6	10.4, 21.0
Public transportation	10.2	6.0, 14.4
School bus	6.2	2.8, 9.6

¹ Reported by caregivers with children living in the household for their oldest child

All adult respondents in the survey were asked whether they would support or oppose redirecting current federal, state, or local transportation dollars so that free transit passes could be provided to students. Almost 9 out of 10 supported this proposed change (Table 6).

TABLE 6. Registered Voter Support for Providing Free Transit Passes to Students

	Point Estimate (%)	95% Confidence Interval (%)
Support (strongly or somewhat)	87.8	85.3, 90.2
Oppose (strongly or somewhat)	12.3	9.8, 12.7

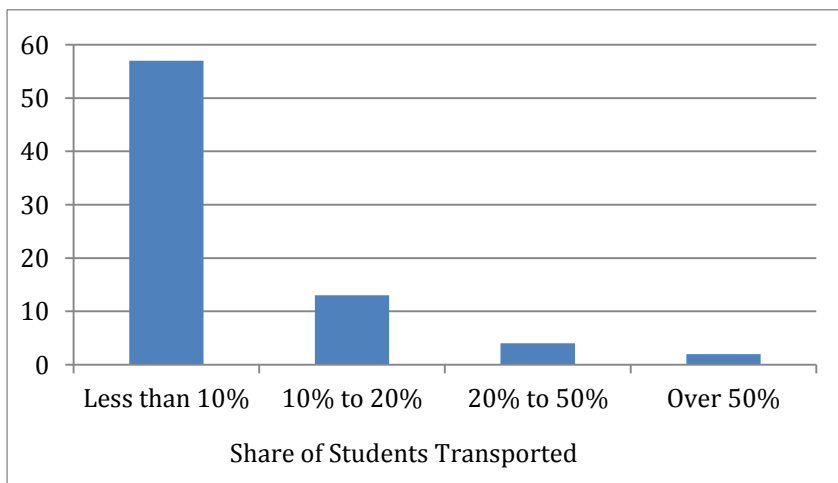
³ Please note that the questionnaires, sampling strategy, and weighting schemes used in the DPH survey of registered voters were different from those used in the 2011-2012 CHTS.

School District Transit Expenditures. Additional data was obtained from the California Legislative Analyst’s Office on the number of students transported and the level of current school investment in transportation (Taylor, 2014).

- Three quarters of Los Angeles County school districts reported providing transportation for less than 10% of their students.
- In the 2011-2012 school year, Los Angeles County school districts spent **over \$273 million** providing transportation to students (See Appendix for breakdown by district).

As discussed in the full report, providing free transit passes to students could result in school districts being able to redirect funds (e.g., to enhance educational instruction, extracurricular activities, or services for students), providing that students currently served by school buses could use public transit (i.e., that public transit is available and could meet students’ needs).

FIGURE 1. Most Los Angeles County School Districts Provide Transportation for Very Few Students
Number of Districts, 2011-2012



Los Angeles County Departmental Transit Expenditures. Many County of Los Angeles Departments currently spend funds on transit tokens and passes for youth. In Fiscal Year 2013, over \$12.5 million were spent by County Departments, most of which was by the Department of Children and Family Services (Table 7). These estimates do not include the staff time associated with administering the tokens and passes.

TABLE 7. Los Angeles County Department Spending on Public Transit Tokens/Passes for Youth

County Department	FY 2013 Spending
Children and Family Services	\$12,300,000
Mental Health	\$82,000
Public Social Services	\$73,000
Probation	\$63,000
Parks and Recreation	\$ 4,000

CONCLUSIONS

We provide updates and new data to complement those presented in the 2013 Report (DPH, 2013). As indicated in the original report, the Los Angeles County Department of Public Health focused its health impact assessment on the proposed program’s costs and benefits as to inform priority-setting and decision-making regarding this and other transportation and school-related policies.

REFERENCES

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APPENDIX

Los Angeles County School Districts: 2011-2012 Transportation Information¹

School District	Daily Ridership (Pupils)	Daily Ridership (As Share of All Pupils)	Transportation Expenditures (\$)	Travel Expenditures Per Student Enrolled (\$)
ABC Unified	1,830	9%	3,750,962	188
Acton-Agua Dulce Unified	563	36%	665,931	421
Alhambra Unified	3,007	17%	3,810,356	213
Antelope Valley Union High	N/A	N/A	3,570,126	153
Arcadia Unified	442	5%	851,008	90
Azusa Unified	173	2%	885,154	87
Baldwin Park Unified	1,033	6%	1,380,042	80
Bassett Unified	564	13%	548,583	127
Bellflower Unified	388	3%	1,171,687	87
Beverly Hills Unified	N/A	N/A	93,352	21
Bonita Unified	1,392	15%	1,054,619	110
Burbank Unified	242	2%	1,647,742	102
Castaic Union Elementary	625	22%	722,267	250
Centinela Valley Union High	164	3%	1,415,444	236
Charter Oak Unified	35	1%	260,505	45
Claremont Unified	123	2%	887,337	129
Compton Unified	3,118	13%	4,941,648	208
Covina-Valley Unified	921	7%	891,192	68
Culver City Unified	89	1%	558,794	85
Downey Unified	860	4%	2,036,224	92
Duarte Unified	177	5%	430,909	112
East Whittier City Elementary	493	6%	1,203,669	140
Eastside Union Elementary	809	25%	922,838	290
El Monte City Elementary	596	6%	1,703,375	184
El Monte Union High	223	2%	1,171,442	121
El Rancho Unified	222	2%	1,616,604	163
El Segundo Unified	7	0%	113,201	36
Garvey Elementary	108	2%	734,450	134
Glendale Unified	1,352	5%	4,056,699	160
Glendora Unified	N/A	N/A	584,657	83
Gorman Elementary	42	3%	78,844	48
Hacienda La Puente Unified	582	3%	2,918,550	145
Hawthorne Elementary	178	2%	1,008,534	119
Hermosa Beach City Elementary	N/A	N/A	47,686	19
Hughes-Elizabeth Lakes Union Elementary	250	77%	302,130	930
Inglewood Unified	561	4%	2,837,660	226
Keppel Union Elementary	869	33%	471,056	181
La Canada Unified	27	1%	262,701	67
Lancaster Elementary	618	5%	1,397,601	102

Las Virgenes Unified	965	9%	2,219,544	202
Lawndale Elementary	151	2%	496,501	82
Lennox Elementary	88	2%	488,860	86
Little Lake City Elementary	208	5%	586,790	127
Long Beach Unified	6,294	8%	12,358,724	154
Los Angeles Unified ²	41,900	7%	145,600,000	220
Los Nietos Elementary	155	8%	383,760	205
Lowell Joint Elementary	50	2%	287,761	95
Lynwood Unified	187	1%	1,262,336	84
Manhattan Beach Unified	25	0%	427,190	67
Monrovia Unified	511	9%	556,339	98
Montebello Unified	4,239	14%	6,555,515	215
Mountain View Elementary	914	12%	1,515,102	197
Newhall Elementary	950	14%	1,242,757	184
Norwalk-La Mirada Unified	2,209	11%	4,848,544	248
Palmdale Elementary	3,291	17%	4,506,029	228
Palos Verdes Peninsula Unified	7	0%	732,883	63
Paramount Unified	830	5%	2,594,027	171
Pasadena Unified	1,066	6%	4,116,421	228
Pomona Unified	1,893	7%	5,170,930	192
Redondo Beach Unified	105	1%	965,345	119
Rosemead Elementary	53	2%	207,792	72
Rowland Unified	980	6%	2,858,074	184
San Gabriel Unified	87	1%	749,487	115
San Marino Unified	6	0%	55,755	18
Santa Monica-Malibu Unified	306	3%	1,872,906	171
Saugus Union Elementary	152	2%	988,318	98
South Pasadena Unified	11	0%	106,932	25
South Whittier Elementary	326	9%	735,613	214
Sulphur Springs Union Elementary	744	14%	1,529,695	281
Temple City Unified	51	1%	779,836	142
Torrance Unified	548	2%	4,121,486	176
Valle Lindo Elementary	3	0%	32,567	31
Walnut Valley Unified	1,641	11%	1,156,654	80
West Covina Unified	1,285	13%	1,130,159	114
Westside Union Elementary	1,022	13%	16,773	2
Whittier City Elementary	337	5%	1,427,229	228
Whittier Union High	817	6%	2,695,611	209
William S. Hart Union High	519	2%	2,165,691	88
Wilsona Elementary	1,080	77%	605,465	434
Wiseburn Elementary	11	0%	89,531	30

N/A = data not available

¹ Provided by Taylor, 2014.

² Since LAO data excluded some ridership and expenditure data for LAUSD, daily ridership and transportation expenditure data were obtained directly from the district. Travel expenditures per student enrolled were then calculated by dividing total expenditures by the total number of students enrolled in the district in 2011-2012 (obtained from the California Department of Education).

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